DOCUMENT RESUME

ED 270 415 SP 027 632

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TITLE Changing Attitudes of Teachers, Principals and Students: What We Didn't Measure.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE Apr 86
CONTRACT 400-81-0036
NOTE 60p.; Paper presented at the Annual Meeting of the American Educational Research Association (70th; San Francisco, CA, April 16-20, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Academic Achievement; *Administrator Attitudes; *Attitude Change; Elementary Secondary Education; *Instructional Innovation; Program Development; Program Evaluation; Program Implementation; Staff Development; *Student Attitudes; *Teacher Attitudes; *Time on Task
IDENTIFIERS *Napa Vacaville Follow Through Research Project

ABSTRACT

Unquantifiable changes affecting attitudes of teachers, administrators, and students who were involved with a four-year comprehensive staff development effort are discussed. A brief overview and analysis of the Napa-Vacaville Follow Through Research Project describes the program designed to improve student engaged rates and achievement at two Chapter 1 target schools. The "hard data" is summarized and a discussion is then presented on 10 themes that emerged from the project and that combined into a tapestry of school improvement revealing how attitudes changed over the four year period. The themes are: (1) collegiality; (2) knowledge about teaching strategies; (3) sense of personal efficacy; (4) changes in cognition about teaching; (5) changes in teachers'/principals' perceptions about their own learning needs; (6) environmental norms which support experimentation; (7) changes in the workplace; (8) changes in student outcomes; (9) changes in perception of the school in the community; and (10) perceptions about why the project worked from the participants' point of view. Conclusions are drawn about critical factors affecting project development, training, implementation and maintenance. Recommendations are made for replicating the project. (JD)

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CHANGING ATTITUDES OF TEACHERS, PRINCIPALS AND STUDENTS: What We Didn't Measure

by
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A paper presented to the
American Educational Research Association
San Francisco, California
April, 1986

SP027632

"WHAT WE DIDN'T MEASURE"

Based on a four year Follow-Through Research Project designed to implement Madeline Hunter's Instructional Skills Program in two Northern California schools.

The project reported herein was funded by the National Institute of Education, OERI, under contract 400-81-0036. The views expressed here do not necessarily reflect the position or policy of the funding agency.

"WHAT WE DIDN'T MEASURE"

The purpose of this paper is to tell the tale untold by the "hard" data. It is a tale told by teachers, principals, parents, students, district staff and community members in written accounts, reflections, teachers' room talk and conversations in passing. It is a tale sometimes told in feelings rather than words: the ethos of the school. The tale presents ten themes. Woven into the Instructional Skills Observation Instrument (ISOI) data, the Engaged Rate (ER) data and the standardized student achievement scores, these themes create a rich tapestry which tells a story about a four year comprehensive staff development effort designed to improve student engaged rates and achievement: The Napa-Vacaville Follow Through Research Project.

Theme one addresses collaborative work and shared responsibility. Theme two focuses on teacher knowledge about specific teaching strategies and their impact on students. Theme three speaks of the teachers' sense of efficacy. Theme four summarizes changes in cognition about teaching. Theme five relates to changes in student outcomes. Theme six examines the changing perception of the school in the community. Theme seven presents changes in teacher perceptions about their own learning needs/style. Theme eight documents changes in the workplace. Theme nine addresses the development of norms for experimentation within the school. Theme ten portrays why the project worked from the participants' point of view.

The data for the themes in this story come from a variety of sources: extensive field notes; informal observations; teachers' room talk; teachers', students' and principals' verbal accounts and project participants' writings. These sources provide several interesting threads which woven together form a rich tapestry of experience.

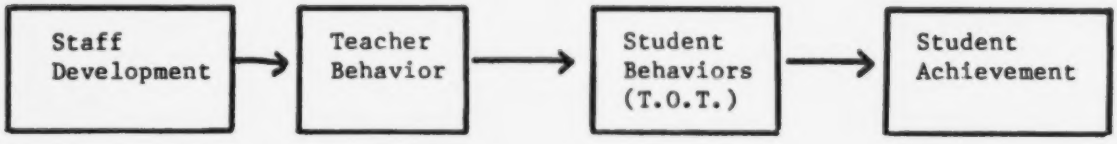
In order to establish the context for this story, the history of the project, the project model and activities will first be reviewed. The existing quantitative data will then be briefly summarized, along with project participants' perceptions of what happened. The story about "what we didn't measure" will then be presented. This information will be aggregated into ten themes. An analysis of project practices will follow, along with recommendations for replicating the project effort. The paper will conclude with a brief summary.

In June, 1981, a Request for Proposals (RFP) for Follow-Through Research Projects was distributed by the National Institute of Education (NIE). The intent of the RFP was to generate cost effective methods of providing compensatory education services, K-4, without the use of Chapter I funds. Applicants were urged to propose approaches to this charge which emphasized increased student engaged rates and achievement. The funding period was to be fifty months. There was also a condition that the two target schools within each application be among the district's most eligible Chapter I population. The RFP stipulated further that during the operational phase of the project (years 2, 3 and 4), no Chapter I monies could be used for instructional purposes. This meant participating schools had to give up classroom aides who, in many cases, had long histories with a particular school. In September, 1981, four sites in the United States were selected by NIE to carry out demonstration models to improve ALT and student achievement: Cotapaxi, Colorado; Detroit, Michigan; Oakland, California; and Napa/Vacaville, California.

THE PROJECT MODEL AND ACTIVITIES

The approach selected by the Napa/Vacaville site was designed to accomplish two goals: to meet the immediate need to improve student Academic Learning Time

and achievement, and to build site level resources to continue the process of instructional improvement and student learning after the funding period ended. These goals were accomplished by focusing on the one natural resource at each school: its teachers. All project activities dealt with providing teachers the training, support and sense of efficacy needed to accomplish improved Academic Learning Time, student achievement and the site level capacity to continue the instructional improvement process. These activities were construed as a result of a project model. In constructing this model, project developers drew heavily on the body of research on effective schools and effective teaching. The model components include four major areas:



As early as 1965, several studies had demonstrated the relationship between student engaged time and student achievement. The Beginning Teacher Evaluation Study (BTES, 1972-1978), with its focus on Academic Learning Time (ALT), further clarified this relationship by isolating the variables of time allocation, engagement rates, relevent tasks and success rates. Specific teaching behaviors which had an impact on ALT and achievement were also identified by this study. These included the teacher's ability to diagnose, prescribe, present information or new learnings, monitor student progress and provide academic feedback. Using this information, project developers made the assumption that not all teachers in the study would have these particular skills as a result of teacher training experiences. Therefore, it was necessary to construct a staff development component which would enable project participants to demonstrate those

specific teaching behaviors which research had shown to be related to Academic Learning Time and student achievement. Ultimately, a direct instruction teaching model, Clinical Teaching, based on the work of Madeline Hunter, was selected to accomplish this purpose. Two additional components, Classroom Management and Curriculum Alignment, were also included in the staff development component. Classroom Management was added because of the stated relationship between Classroom Management strategies used by teachers and student engaged time. This component was based on the work of Carolyn Evertson and Edmund Emmer. Curriculum Alignment was included because it was critical that students had an opportunity to spend time on tasks that were ultimately to be assessed by standardized achievement measures. The table below identifies the specific training topics which teachers in the study learned as a consequence of their participation in the Staff Development component of the model. All topics were intended to enhance the teacher's ability to demonstrate those behaviors which research suggests were related to increasing Academic Learning Time and student achievement.

Table 1 - Training Topics For Teachers

Non-Contingent Reinforcement
Reinforcement Theory (positive reinforcement, negative reinforcement, schedule of reinforcement, extinction)
Classroom Management (rules, procedures, consequences, room arrangement, use of space)
Direction Giving, Signal, Sponge, Teacher For Independence
Behavorial Objectives
Task Analysis
Diagnosis and Prescription
Lesson Planning
Motivation Theory
Practice Theory
Bloom's Taxonomy
Communication Skills
How To Use Time Off Task Data For Instructional Change
Curriculum Alignment (math, reading)

The two Project principals attended all trainings listed in the preceding table with teachers from their respective schools. This assisted them in supporting the teachers' use of newly learned instructional and classroom management strategies. In this way, staff members had access to a site level support system which provided them with feedback about their use of classroom management, instructional and curriculum skills.

Principals received additional staff development training in the topics listed in Table 2. These topics were selected after careful examination of the literature regarding the principal's role and school improvement. Within any organization, but particularly within organizations in the process of adopting or integrating an intervention, there is a strong need for specific leadership and management skills.

Table 2 - Training Topics For Principals

Characteristics of Effective Schools
Leadership Styles
Administrative Monitoring Strategies
Time Off Task Instrument
Clinical Supervision
Cognitive Coaching
Team Building
Collaborative Planning
Problem Solving
Decision Making
Effective Meeting Management
Identification and Allocation of Resources
Superlearning

The delivery system for providing teacher and principal training was also based in research. Project developers were influenced by the works of Joyce and Showers, Berliner, Tikunoff, Ward and Griffin. For trainings listed under Table 1, participants experienced the introduction of theory, demonstration, and

practice followed by feedback on their practice prior to application in the classroom. Each participant received two or more follow-up visits in his/her classroom from the trainer conducting the session. Several structures were used to provided periodic review and maintenance of newly learned skills: R & R (review and refine) sessions, research seminars, videotape/analysis sessions and peer observation.

The training for principals listed under Table 2 took several forms. New content was sometimes provided, reviewed and practiced within a collegial team made up of the two Project principals and an administrative consultant. A private consulting service was also made available to each principal so that they could receive feedback on their supervision skills, school improvement plans or any other instructional leadership issue they wanted to discuss. Additional training and collegial support was made available through a "Friday Afternoon Club" (FAC) structure. This group, made up of principal/teacher teams from eight schools within five districts, met twice a month, and provided an expanded support network for the two Project principals. The FAC meetings included a morning session exclusively for principals and an afternoon session for principals and their leadership teams. During these meetings, participants received formal instruction and had opportunitites to practice in a safe environment.

The implementation of the project model was carefully planned to take place over a fifty month period. During this period, project staff and participants would move through readiness, planning, training, implementation and maintenance stages in the project. In the paragraphs which follow, those activities which took place during these stages are specifically described.

READINESS AND PLANNING

Year one of the project operation was devoted entirely to building readiness and planning. The goals of project activities conducted during this period were to build an understanding of the project, develop commitment and create trust. This was critical for several reasons. Since the goals of the project had been designed without the involvement of staff, ownership had to be developed. The project research base, design and activities to meet stated objectives had to be explained to project participants. There were several areas in which staff input was necessary: when training should occur, how often, where. A relationship had to be built between the project and school staff members. There was a need to coordinate existing projects (special education, counseling, bilingual) on both sites with the Follow-Through project, so that it would not be perceived as an "added on" responsibility or "one more thing to do," as one teacher put it. Channels for communication had to be established in order for concerns to surface quickly, be addressed and resolved. Initially, the way in which each project site was introduced to the project was very different. Accordingly, planning year activities at each school varied.

At School Number One, the project director, superintendent and district office staff called a 7:30 a.m. breakfast meeting with the staff. There, notice was given that the school had been selected to participate in a national study funded by the research arm of the United States' Department of Education. Project goals, objectives and activities were shared. The superintendent expressed the district support for the project effort and offered each staff member an option to participate in the study. Those staff members who did not wish to participate were able to transfer to another non-project site. Two

faculty members elected to do so; the remainder decided to participate. Nonetheless, there were concerns about losing classroom aides.

At School Number Two, the principal explained the project to his staff and gave them the option to decide whether or not to participate. He stressed that without their united support as a staff, the school could not successfully participate. While staff members were apprehensive about giving up classroom aides, they made a unilateral decision to participate. "We decided we had been the number one ranked school for too long," commented the principal about the staff decision. "We were number one at the bottom of the district's list for low test scores, had the highest percentage of AFDC and the highest number of non-English speaking students. We were ready to try a new approach." Readiness and planning activities to elicit and maintain staff involvement took four forms: site visits/consultations, interviews, a retreat, and presentations about the project goals, objectives and training activities. These were tailored to the needs of each school.

Site visits were conducted by the project director three to four times a week at each school. There, she would visit with staff members in the faculty room, on the yard, and in the cafeteria. She would be accessible to answer questions. A mailbox was labeled for her next to the teachers' and this provided an opportunity for staff who were less comfortable with personal interactions to submit questions, concerns or comments they had about the project. She hosted informal "coffees" in the morning before school. This provided an opportunity for staff to get to know her and for trust to develop. She posted her telephone number for staff members to call. While visiting the schools, the project director modeled respect for uninterrupted instructional time by not interrupting classrooms to speak with staff members. She attended

several staff meetings. These visits provided faculty members with additional access to information about the project. This also created a project staff awareness of the multitude of activities that faculty members were expected to be involved in outside of the classroom. In listening to fears or concerns about the project, the project director tried to determine at what level of concern the fear or question was being expressed (informational, personal, management . . . .) and respond accordingly. Much of her time during year one was allocated to listening and responding.

The project director also worked closely with the principals of each site during the planning year. She shared information about Academic Learning Time, the research on effective schools and the research on instructional leadership. This was accomplished in three ways: articles were sent to the principals, principals attended seminars sponsored by Far West Laboratory and the Stallings Teaching and Learning Institute, and informal discussions occurred. The principals and the project director discussed fears about site level issues that resulted as a consequence of the implementation of the project. These discussions addressed, for example, the removal of Chapter I instructional aides as mandated by the RFP. It extended to work with principals and the district personnel manager to assist in the transfer and layoff process, talking to angry aides affected by the mandate and parents who questioned the removal of Chapter I funds for Instructional purposes. Other discussions focused on how attention to ALT could be modeled at the school: limited use of the intercom, ways to divert distracting traffic patterns, strategies to reduce interruptions and communications with parents.

The project director also assisted both principals in making presentations to a variety of interest groups. They met to discuss how all projects operating on site (bilingual, school improvement, mental health, Follow-Through Research

Study) could be coordinated so that their goals and objectives could be met efficiently and effectively without negatively impacting or conflicting with one another. They identified ways that the Follow-Through activities could help meet other project goals.

Presentations about the project design were made at faculty meetings. The staff development trainer, in response to staff members' inquiries about "What will the training look like?," conducted a mini-session on what training opportunities would be like. During this session, she provided an overview of the five elements of lesson design, using the same modeling techniques which would be characteristic of future training activities. Later, the staff development consultant visited classrooms and demonstrated a lesson in front of both staffs how the skills she was teaching during the staff development training sessions would assist teachers in working with students.

Presentations were also made to parent groups. (These included PTA and Bilingual Parents' groups.) Question and answer sessions followed each presentation. There was grave concern intitially over the Chapter I issue. At one school, the small group of parents in attendance felt the presentation so valuable that they asked if it could be repeated. They formed telephone committees and phoned additional parents to attend. One of the outcomes of these meetings was a voiced desire to organize a parent volunteer group to assist teachers since there would be fewer adults in the classrooms when Chapter I aides were eliminated. (Some aides were furious about this offer and told several community members that the parent volunteer effort was helping them to lose their jobs!) The project director also wrote articles for the school newsletter and collaborated with the principals in writing articles for the local paper. This served to increase awareness and promote understanding about the project. These efforts reached a group of individuals who did not attend meetings at the school.

During the planning year, rumors were circulated about "the project that forced schools to give up Chapter I money for instructional purposes." The project director met with principal groups and the Elementary Instructional Council to make presentations about the project and answer questions. She also met with school boards in both districts and at the county level to promote understanding about the project.

A retreat was organized and conducted on February 26 and 27, 1982. Dennis Sparks from Dearborn, Michigan, facilitated these sessions. The theme of this retreat was "An Invitation to Join in a Four Year Commmitment." The two day session represented an opportunity for the staffs of both project schools to meet for the first time. Kindergarten through sixth grade teachers and support staffs attended. Also attending the retreat were project consultants, the project evaluator, and several well-known researchers (Charles Fisher, Judith Warren Little, Georgea Mohlman and Jane Stallings). The retreat provided school staff members with an opportunity to learn about the research base of the project, discuss project plans and issues, express needs and build collegiality. Prior to the retreat, the project director met individually with staff members at both schools and interviewed them about issues they would like addressed and the outcomes they desired for the retreat and the project. This data was used to plan the retreat activities. Staff responses to these interviews were posted on large charts and shared with the group at the beginning of the retreat. This served two purposes. It communicated to staff members that the concerns they expressed individually were in many cases concerns that were shared schoolwide. It also emphasized the project staff's willingness to tailor retreat activities to meet school staff member needs. It set a positive feeling tone characterized by listening and understanding.

As a follow-up to the retreat, several planning workshops (half and full day) were conducted in locations away from the school site. The purpose of the workshops was to plan with school staff members the best way to implement project activities during year two. This increased ownership in the project. Workshops were held separately for each school. School calendars (holidays, parent conferences, testing schedules) were examined in relation to future project activities to reduce the incidence of scheduling conflicts. While only K-4 staff members and K-4 special education staff attended these planning workshops, strategies to inform teachers in grades 5-6 and support staff about each session were developed and carried out. Throughout the planning year (1981-82), all K-6 staff and support staff were included in communications about the project which would be impacting students matriculating through the grades. It also reduced the segmentation that could have occurred because of the project's funding focus on K-4.

TRAINING AND IMPLEMENTATION

During year two and three of project operation, the focus of activities was on training and implementation of the skills and strategies learned during training. Kindergarten through sixth grade teachers, support staff and the principals from both schools attended trainings and received follow-up visits on a regular basis. "Back to School" sessions were held prior to the opening of school each year. During these sessions, Classroom Management strategies and non-contingent and contingent reinforcement strategies were taught. Teachers were given time to plan how they were going to use this information in planning for instruction, instructing and evaluating their own instruction.

Throughout the year, trainings occurred every two months. They were held during the school day (8:30 a.m. - 3:00 p.m.) away from site. Substitutes were

hired to take project teachers' classes. Teachers remarked, "This made me feel valued as a professional. Project staff invested time, money and interest in me." Spacing training sessions two months apart allowed adequate time between trainings for participants to try out new techniques in their classrooms. "I was given plenty of time to make changes in my teaching," commented one first grade teacher. "I felt no time pressure." About the follow-up visits which she received after each training session she commented, "I found that focusing on one small aspect of a new teaching strategy (i.e. emphasizing "checking for understanding" in lesson design) really helped me internalize the process to a point where now it's part of my repertoire. I also found I had enough freedom to take a new idea and change it a bit to suit my needs. In doing so I made it mine."

In addition to trainings and follow-up visits, review sessions were held and participants had opportunities to participate in peer observation, visit other classrooms or be videotaped. All activities were explicitly designed to assist teachers in implementing those teaching behaviors which are linked to Academic Learning Time and student achievement.

During years two and three, the two project principals attended trainings in those areas listed within Table 2. They enjoyed visits from an "Administrative Mentor" who offered a private consulting service, practiced new skills together and attended "Friday Afternoon Club" meetings. One of the most significant activities which occurred during years two and three was the development and maintenance of a Principal's Advisory Committee (PAC) at each school. The PAC was made up of two or three teachers and the school principal. It became a vital problem solving group for the school. It took issues of concern under study and diffused anger which would otherwise be directed at the

principal. Teachers felt "heard" and sensed they had some influence over the conduct of activities and policies in the workplace. The PAC also assumed responsibility for conducting staff meetings. The principal remained the chairperson, but teachers on the PAC functioned as facilitator and recorder.

Representatives from both staffs attended regular project planning meetings. These were held every other month and assisted in keeping the project director informed about staff attitudes and site level implementation issues. On a yearly basis, a teacher representative, the project director, and the school principal from each site went to Washington, D.C., to report about the project to the National Institute of Education. This was a real motivator for staff members. One teacher wrote "my excitement about participating in the project was heightened by being able to visit NIE headquarters in Washington, D.C. It was a real thrill and it gave me a sense that the people who initially developed the ideas were truly interested in furthering these understandings and were devoted to the project."

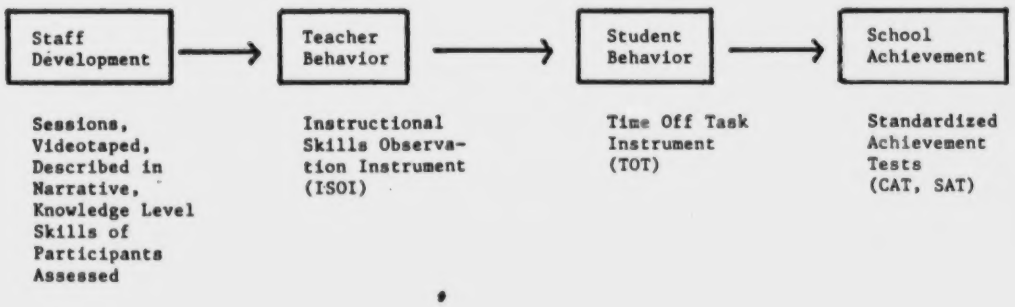
CONTINUED IMPLEMENTATION, MAINTENANCE

During year four, the focus of project activities shifted. While implementation was still a concern, a major emphasis turned to maintenance. At the beginning of the year, school staff members attended a classroom management workshop. Later in the year, a workshop on Bloom's Taxonomy was held. Principal training continued. PAC members continued to play a vital role in school site planning and problem solving. Project planning meetings were regularly conducted. In February, 1985, a retreat was held to commemorate the project's fourth year of operation. This time, the theme was "Joy is the Journey, not the Destination." The participants from the original retreat,

including researchers, came together to reflect on where they started, where they had been and where they were going. They wrote about their experiences so that others considering embarking on a similar staff development path to school improvement could learn from Follow-Through Project efforts. Staff attitudes shifted from "How do we implement all the knowledge from our training experience?" and "How well am I doing at implementing?" to "How can we keep this project going after funding is over?" and "how can we share our learnings with others?" Each school developed a comprehensive plan to address these questions for the 1985-86 school year.

EVALUATION DESIGN/RESULTS

The evaluation design for this study, created by Jane Stallings, was developed so that teacher change and student behavior changes could be assessed over four years. Specifically, program implementation, student engaged rate and student achievement is examined. The diagram that follows illustrates the project model and how each component is assessed through the evaluation design:


Staff Development
Teacher Behavior
Student Behavior
School Achievement
Sessions, Videotaped, Described in Narrative, Knowledge Level Skills of Participants Assessed
Instructional Skills Observation Instrument (ISOI)
Time Off Task Instrument (TOT)
Standardized Achievement Tests (CAT, SAT)

An Organizational Climate Description Questionnaire (OCDQ, Halpin, 1963) was also used to assess school climate and principal leadership style. Teacher interviews were used to elicit information about teachers' perceptions of their experience.

Data was collected at several points during the study. Table 3 describes the Data Collection Plan.

Table 3

DATA COLLECTION SCHEDULE

	1982 Spring	1982 Fall	1983 Winter	1983 Spring	1983 Fall	1984 Spring	1984 Fall	1985 Spring
ISOI			x	x		x		x
Engaged Rate		x		x	x	x		x
Achievement	x			x		x		x
Principal & Teacher Questionnaires	x			x		x		x
Interviews	x			x		x		x

During data collection, teachers were observed two hours in reading and two hours in math.

Central to this study was the question of whether a group of teachers present in the schools at the inception of this study could be trained to use more effective instructional techniques. To examine this question, observers, using the Instructional Skills Observation Instrument (ISOI) developed by Pat Wolfe and Madeline Hunter, recorded the teachers' use of the four components of Madeline Hunter's model for instruction (set, instruction, guided practice, independent practice). Scores on this instrument reflect not only the teacher's use of each component but whether or not the decision to include each component as a teaching step was appropriate. Interviews with teachers yielded an additional source of information about the level of teachers' implementation of the program.

Student engaged rate was assessed by the Time Off Task Instrument, developed by Dr. Jane Stallings. This instrument examined student and class level data during 50 minute time periods. Specific off task behaviors were noted as were the activities and grouping situations during which the off taskness occurred.

Student achievement scores were also examined to determine gains in reading and math, and the relationship between achievement and ISOI and ER data. The distribution of students across quartiles was examined as well.

Teachers' ISOI scores and students' engaged rates and achievement test scores were at their peak and the relationships among these variables were the most strong in Spring 1984. In 1985, ISOI scores dropped considerably, engaged rates decreased and achievement scores in math and reading dropped. The drop, however, was not to the level of scores at the program's inception. Over the course of the four year study, reading achievement increased 1.98 NCE points and mathematics increased 2.28 NCE points. Twelve percent more students were scoring above the 50th percentile in reading and 15 percent more in mathematics than before the program began. Students who had been in the program for longer than one year had higher test scores than those who had been in the program for just one year. Bilingual students showed significant gains.

A comprehensive discussion and analysis of the data is included in a companion paper for this conference authored by Dr. Jane Stallings and Eileen Krasavage of Vanderbilt University.

WHAT WE DIDN'T MEASURE

If one continues with the analogy of this story's tapestry like quality, the finished side reveals a picture of steady growth during the initial three years of the project, culminating in a peak in year three. ISOI scores (measuring the teachers appropriate use of lesson design), engaged rates and test scores steadily improved (Figures 1, 2, 3, 4) during 1981-84. In 1985, ISOI scores dropped, engaged rates decreased and reading and math standardized achievement scores dropped. The drop, however, was not to the level of scores at the program's inception. Why did the growth not continue? The patterns on

TEACHER INSTRUCTIONAL SKILLS IMPLEMENTATION

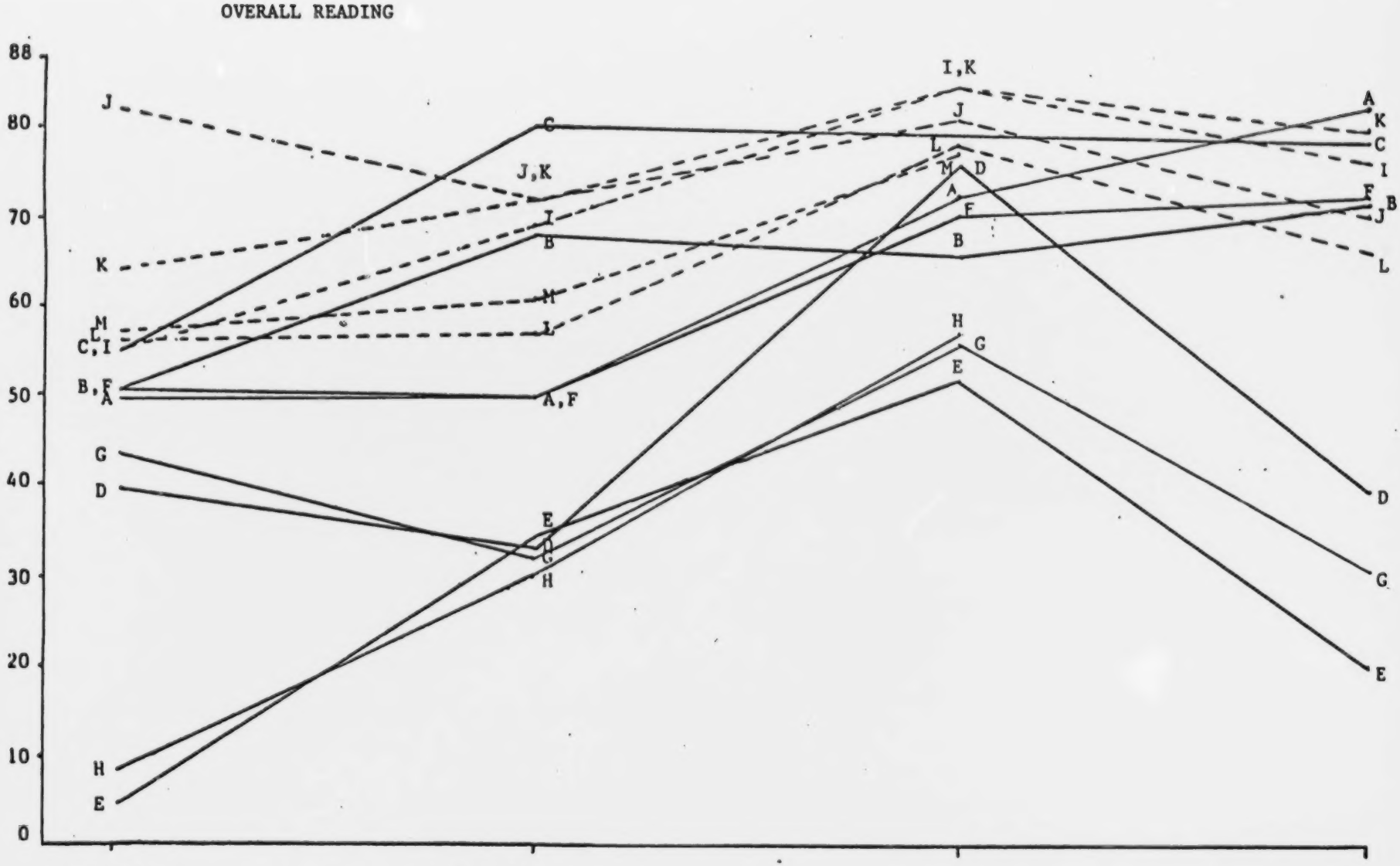


Figure 1

*Raw scores were used in this figure

TEACHER INSTRUCTIONAL SKILLS IMPLEMENTATION

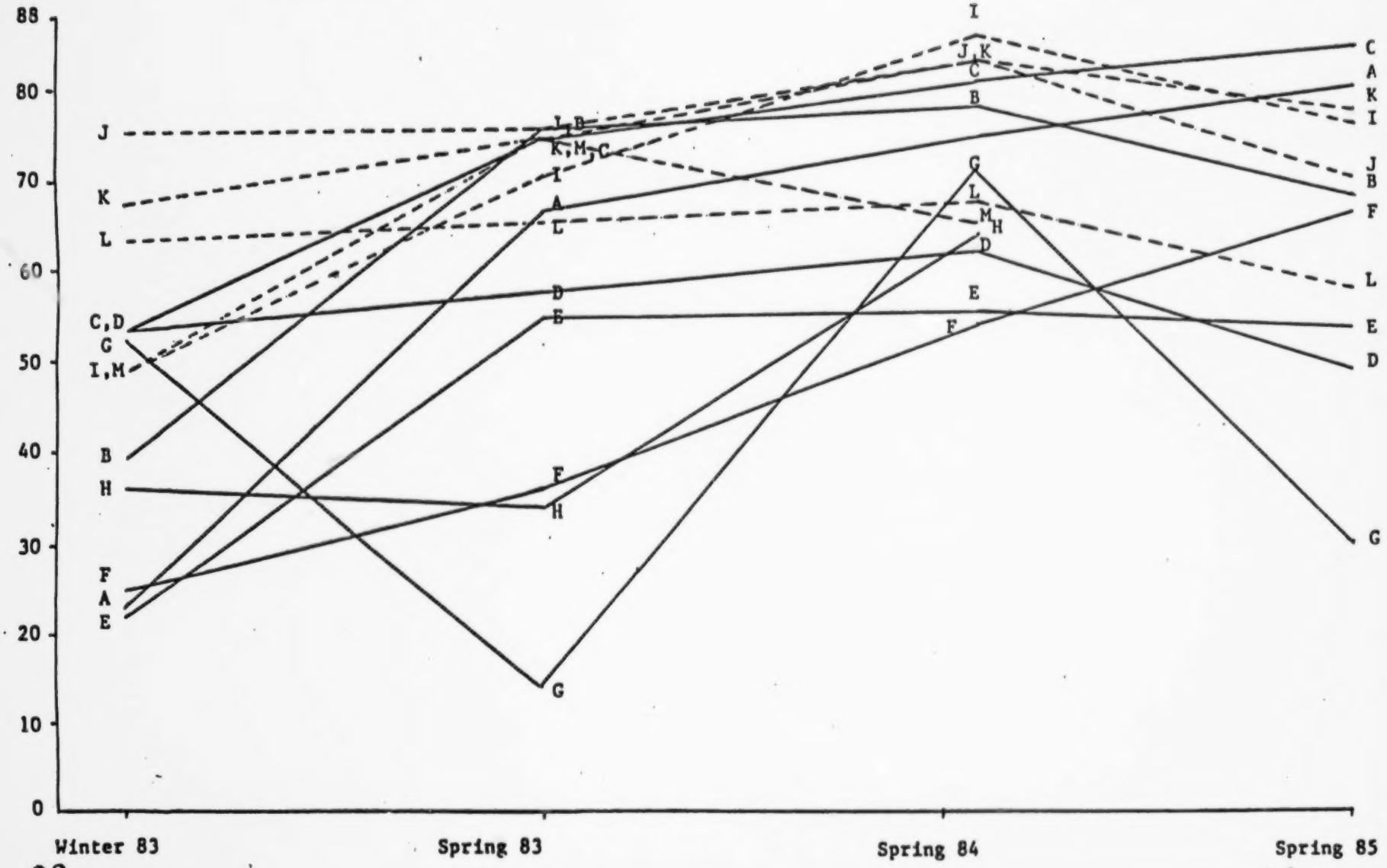


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Figure 2

Figure 3 Mean Reading Engaged Rates

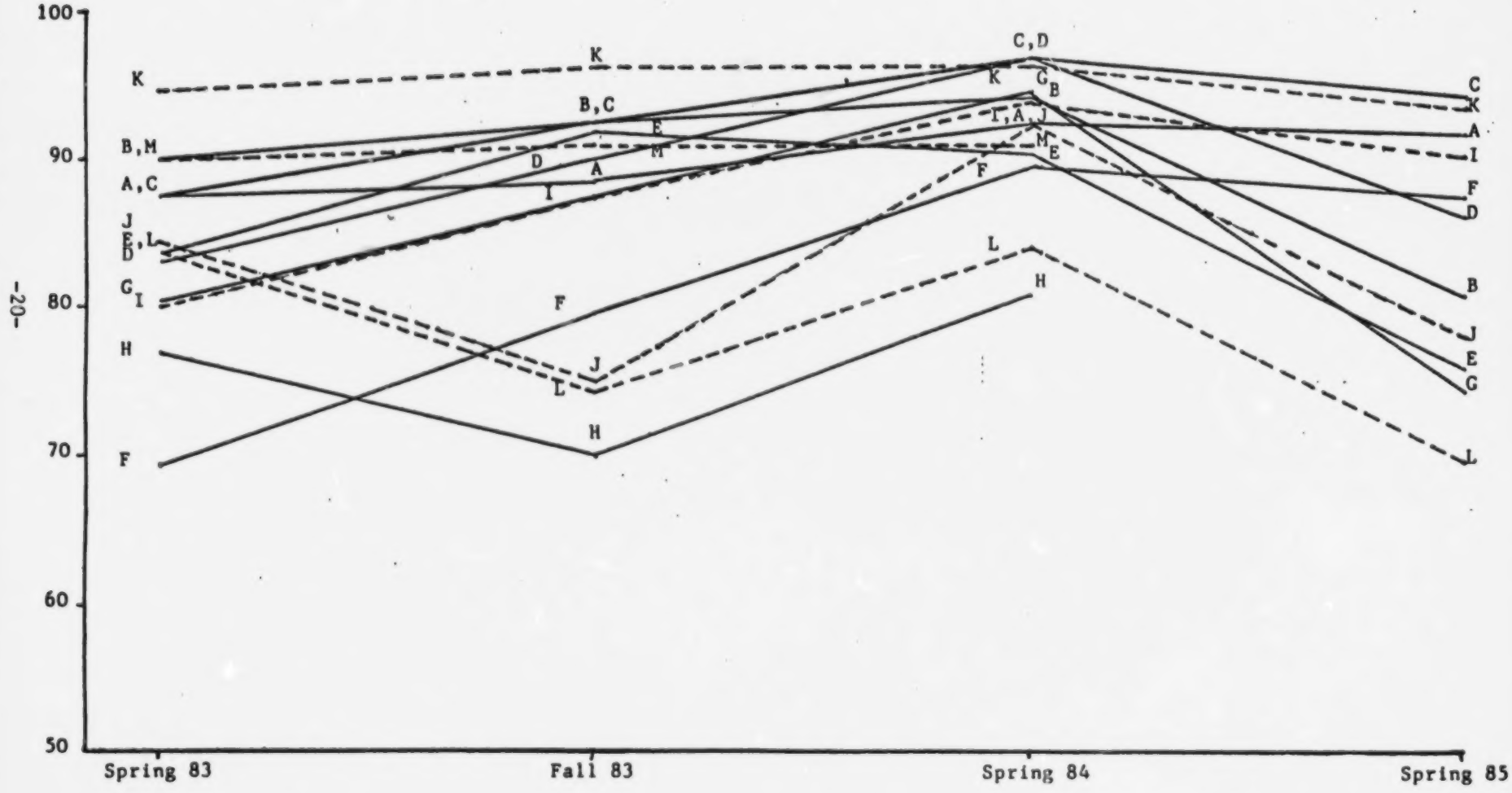
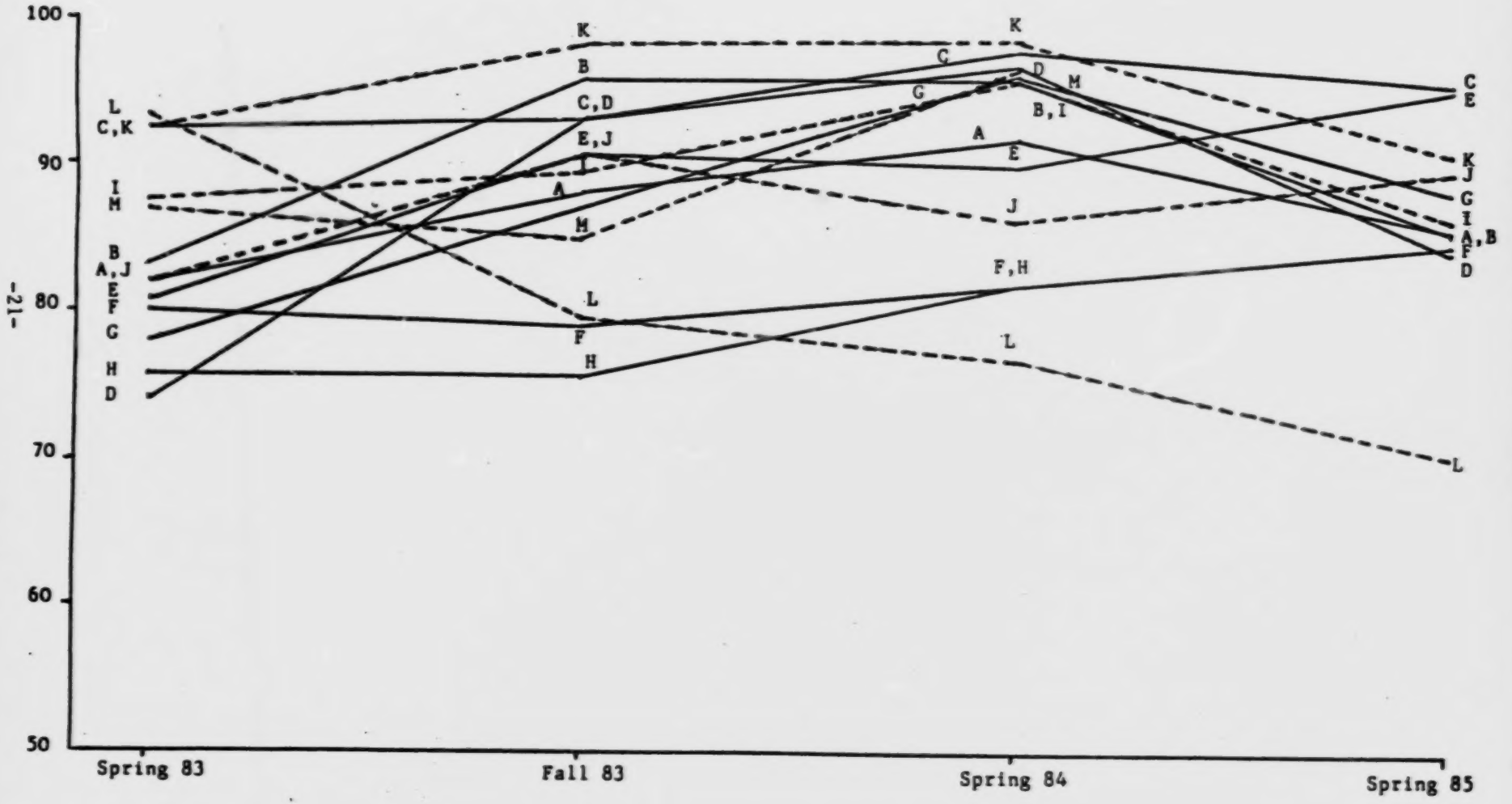


Figure 4 Mean Mathematics Engaged Rate



the tapestry are silent. The voices of teachers bring it alive. Teachers were presented with the project data and asked during a formal meeting to hypothesize why the results indicated a peak and decline. They talked together in groups, then reported their thoughts as a recorder took notes. Some suggested that the overall decrease in scores might indicate a regression toward the mean. A few teachers talked about experiencing burnout. They cited feeling "pressures from the district for continued change and growth" in addition to "demands from the project" which caused them to feel overloaded and "unable to maintain the level of intensity and focus on project goals" which they had managed to achieve during the third year. Other teachers mentioned that in the final year there was less follow-up from project staff. (Project staff had decreased the number of classroom visits in response to teachers' complaints about "too many pressures.") Looking back however, some of the project teachers said that the frequent presence of project staff might have been more helpful in the long run. They felt they needed "outside pressure in order to continue to work toward project goals." Others felt this pressure would hinder the pursuit of project goals. One teacher commented, "During the final round of data collection we were less concerned about 'putting on a show' for the observers than in previous years. We felt the data would be more representative of what was happening in the classroom on a regular basis."

Teachers also explained that instead of "leveling out," they were moving in new directions which could not be measured by looking at Time On Task or Instructional Skills. New interest areas included different instructional strategies, critical thinking skills, "hands-on" math, science and computers. For some, the "leveling out" was a period of assimilation. They felt it was important to have time to reflect on new learnings in order to integrate them

into their own unique way of teaching. These teachers expressed gratitude that the final year of the project was somewhat less demanding.

Some teachers reported feeling "tired of being in the limelight for so long." They "loved the project and the staff" but were "tired of the direct instruction model after four years." "We want to relax and move on to different strategies," one teacher noted.

Many spoke of what the data did not measure: "There has been change ... but did we evaluate that change? Feel the energy in this room. There's ownership. There's been a big difference over the years. We are better people because of the project ... but the data doesn't show it."

As with any tapestry, there are many hours of toil behind the finished product. These hours are frequently characterized by difficulties such as knots or tangles which impede the progress toward the goal of completion. When the finished side of the tapestry is reversed, a rich, interesting history of effort is revealed. This particular tapestry's threads and cords of yarn, some rough, some smooth, tell individual teacher's stories of their involvement in the Napa-Vacaville Follow Through Research Project. Some long threads tell stories that originate with the inception of the project. Shorter threads add tales of staff members who more recently joined the project. Interestingly, the shorter tales lack the depth of understanding and complexity that the longer threads evidence. One is reminded of the intensity of experience that four years brought to staff members. The "learnings" and understandings that developed as a consequence are not easily transferred to new staff. The development of understanding takes time. Together, these individual accounts form ten themes that characterize what happened.

In the section on project activities, the struggles of having to give up classroom aides, building ownership when the project was initially imposed "top-down," developing trust and other critical events were discussed. Out of teachers' and principals' accounts of these and other experiences, and from extensive field notes ten themes flourish which address specific changes which weren't measured.

THEME ONE: COLLEGIALITY, COLLABORATIVE WORK AND SHARED RESPONSIBLITY

At the beginning of the project, there was little evidence of collaborative work at either school. Reflecting on the initial year of the project one principal commented, "There was little collaboration except during negative things. Then people rose to the occasion and joined forces." Teachers worked alone in their classrooms and didn't participate in peer observation or any other form of collaborative enterprise. Teachers' Room talk frequently included "I's" and "my's" as teachers talked about their work. In addition to the lack of interaction between individuals, relationships between the individual and the organization were non-existent. One teacher commented, "It used to be that if the school was not good it was the principal's fault. Now we realize we're also responsible for what happened.

Teachers and principals point to specific experiences which facilitated a shift from individual to collaborative work. One teacher spoke of the collaborative effort trainers modeled during classroom follow-up: "each of them (the trainees) has a different style...she rolled up her sleeves (after a workshop on room arrangement) and helped me rearrange the room. After I used the arrangement we talked about it." Principals and teachers experienced and began talking about collaborative work during training: "new and great ideas arise from a joint effort to improve one's profession." Teachers also cited

one of the benefits of the project as "teachers working together on an overall goal instead of being isolated in their classrooms." Another factor contributing to collaborative work was the "shared language." Principals provided opportunities through the Principals' Advisory Committee (PAC) for staff members to take an active role in the school. Through this process emerged a greater spirit of shared responsibility. As a result of these experiences teachers and principals now recognize the collaboration and shared responsibility that characterizes their work now: "I learned how to become a better learner, a better teacher, and a more supportive professional peer," one teacher wrote. Another teacher wrote of this spirit:

"Communicating with other people
A willingness to try, even when it's hard
Humor about ourselves
Tolerance for ourselves and others
The SAMENESS in all of us
Fun in learning
We make it happen"

THEME TWO: KNOWLEDGE ABOUT TEACHING STRATEGIES

Teachers learned new teaching strategies and discovered "things they've done in the past that now have names" during the four years of project effort. One teacher wrote ".....I learned how to improve my teaching skills to where I could see greater student gain in knowledge and interest. I have more techniques to keep motivation high." Teachers enjoy watching students reap the same benefits that they've personally experienced in staff development activities: "I now believe children learn by -

- knowing what it is they are to learn

- having a good model for that goal
- having time for practice under guidance
- having time to practice independently
- having an opportunity for self evaluation
- having time for more practice if necessary
- knowing that their accomplishments are recognized.

As teachers became more comfortable with direct instruction, their interests expanded to cooperative learning and other models of thinking. What was perhaps the most powerful learning about teaching strategies was the notion that the teacher is the decision maker who selects the appropriate strategy, given considerations about students, content and context.

THEME THREE: SELF ESTEEM, PERCEPTION OF SELF IN RELATION TO OTHERS, SENSE OF EFFICACY

The sense of efficacy that characterizes the writings of project teachers highlights the impact of the project on their self esteem, relationships with others, and their "can do it" attitude. "I now feel that I have more control of my life and that I make a difference" one teacher wrote. Another wrote of the relationship between her feelings and the impact they had on students: "As a result of the project, I have become more aware of my strengths and self worth. By me feeling this way I can impart these positive feelings to the students." Of the strength efficacy imparts one teacher wrote, "Our energy is higher; we have found a power source within ourselves, we believe in ourselves." Project participants sense of efficacy was no doubt influenced by the increased opportunities to take an active role in the school through PAC and through the evaluation feedback which indicated that they were responsible for producing positive student gains. Teachers' actions during the third and fourth

years of the project reflect this increased sense of efficacy. Five teachers wrote proposals, five became mentor teachers, several began private consulting. Others became trainers for the district staff development cadre. One began teaching curriulum alignment in a .40 position. Their actions suggest that they wanted to share their learnings with others. They now firmly believed they could make a difference, and they did. One teacher wrote "The power is within us to change the image of teachers and the teaching profession."

THEME FOUR: CHANGES IN COGNITION ABOUT TEACHING

Throughout the writings of project participants, there is evidence that cognition about teaching has changed. This is reinforced by summaries of conversations from the Teachers' Room, in halls and during follow-up visits. Comments included a focus on specific elements of teaching as well as the general process. "...all children don't learn the same way...they need a variety of experiences to learn a particular concept. Some children learn visually and by just presenting material for them to see, they understand the concept. Some children learn auditorially and understand by hearing. Others need to feel or manipulate things to understand. All modalities are valid and need to be incorporated into the classroom. Students need to practice what they have learned for it to be relevant," expressed one teacher. In the first year of the project, participants seldom mentioned their thinking about teaching. During training however, two elements were regularly incorporated into the training design which seemed to stimulate thinking. After any training activity where teachers were involved, they were asked to process what happened during the activity for themselves as learners and apply their learnings to classroom practices. These training steps allowed them to experience, personalize, analyze and generalize. Experiences in thinking and talking about

teaching during training were supplemented by conversations which occurred during the follow-up process and feedback from the evaluator about classroom engaged rate observations. During these sessions teachers were asked to reflect upon practices and analyze what worked most effectively and why. Teaching is now viewed as a "fluid and dynamic process," where the teacher constantly engages in decisions about teaching.

THEME FIVE: CHANGES IN STUDENT OUTCOMES (test scores, work habits, social skills)

Of the ten themes, this is by far the one that surfaces least frequently in teachers' talk and writings. At the beginning of the project, teachers talked about students not listening well and suggested that this condition was a consequence of constantly having an aide in the room who would repeat directions. When the aide was removed, students and teachers had to work hard to improve listening skills. Teachers report students became "more independent and more successful in completing objectives." An area in which all staff perceive changes in student outcomes as engaged time. A first grade teacher wrote an article which describes how she taught her students about "Time On Task", then provided regular feedback about their engaged rates. This system was so effective that it dramatically improved engaged rates in the classroom, hence the teacher rarely talked about Time On Task (TOT). One student asked after two weeks of silence about the topic, "Don't we get to talk about TOT anymore?" Teachers often mentioned student outcomes in relation to their own teaching behaviors: "As a result of getting my TOT data back, I realized by taking my lowest reading group first, students had to sit for a longer period of time without teacher direction. Now I take them second so they only have to

work independently for short periods of time...they are now more able to structure and complete tasks on their own."

Perhaps one reason that there is less emphasis on teacher/principal talk about student outcomes is that participants were so caught up in the learning process themselves. Only after they focused on these learnings could they begin thinking about the impact of the project/their behavior on student outcomes.

THEME SIX: PERCEPTION OF THE SCHOOL IN THE COMMUNITY

Staff, students and community members note dramatic changes in the perception of the school in the community. The following comment illustrates this change "...I feel the reputation of this school has done a complete turn around. Before I came here to be in the project, this school was regarded by many as 'the pits.' This was reinforced by test scores. Last Friday I had three principals in my room who had flown out from Maryland. Need I say more?" Students and community sense a change in the school's reputation. Both principals noted that they used to sign more inter-district transfer agreements which allowed parents to enroll students elsewhere. "Now, they're coming here because they want 'in' instead of 'out'."

Certainly the feedback about the perception of the school in the community has had an impact on participants' sense of efficacy as well.

THEME SEVEN: TEACHER PERCEPTIONS ABOUT THEIR OWN LEARNING STYLES, NEEDS

Participants experienced new learnings about themselves as they participated in project activities. Through these learnings, they began to generalize how their own learning styles influenced their teaching and ultimately, how students learned. One principal reflected, "Through my school years I became aware that I would do better in subjects and activities that were sequential, logical, concrete, and related to my interests. As we

progressed through the project and faced new hurdles, subjects, topics and trainings, I found that I was more interested in and better able to grasp those concepts that were concrete, practical, applicable to my current situation. I believe children learn what is modeled for them and what fits in their representational system."

Many teachers spoke and wrote about the importance of being aware of their own learning styles in planning student lessons. One wrote "...I learn best visually and probably am inclined to teach the same way in the absence of a conscious effort to include all learning modalities." Teachers frequently talked about the training and follow-up procedures in relation to their own learning needs:

> "I can retain material better if I have a chance to put something into practice...in a real situation... I appreciate feedback from an impartial observer, be it positive or negative."
>
> "Follow up is important so that each learned skill can be attempted and critiqued."

One teacher wrote about the importance of seeing the "big picture" first: "I like the whole picture to be presented...where we are, where we're going and how we'll get there. I work best with a thorough understanding of the process, not just what the product will be."

Participant feedback regarding personal learning styles was utilized to develop individualized follow-up procedures as well to modify training plans.

THEME EIGHT: WORKING CONDITIONS THAT SUPPORT TEACHING AND TEACHERS

During the fourth year of the project, teachers identified specific project and school conditions which they believed supported teaching and

teachers. One condition was the opportunity to have input and influence in the organization: "We need to feel we have a part in decision making. We know what's going on in the classroom, what's needed and what needs to change. This is valuable information."

"Our faculty meetings are now organized with little waste of time. We have had much more input because we have had spokespeople on the PAC. Frustration level here has gone down. Workshops have been productive. There are still upsets but they are handled better."

The opportunity to influence has also generated a feeling of empowerment among teachers. There is "more energy to get the job done in spite of all the pressures." This has also created strong feelings of professionalism: "The most important thing the project has done is build confidence. Teachers are treated as professionals...we have a voice in planning not only what happens in our schools but in project inservices."

Another teacher wrote, "We are treated as professionals, experts, because we are."

Teachers also identified a key role principals played. They felt protected by principals during key learning periods. "...the project caused administration to make positive changes within the school to improve the learning environment such as eliminating classroom interruptions and loud speaker announcements." Teachers felt supported by principals when the principal taught their class so that they could observe one another teaching. Another way principals offered support was by "modeling at a school level, like in the cafeteria or bus line, what we (teachers) were working on in the classroom. It helps when principals teach and reinforce rules or use sponge activities...consistency and reinforcement are important for students."

Another condition teachers mentioned was having a sense of purpose. "A mission helps because our individual efforts collectively relate to the whole," said one teacher. When peer observation wasn't going well two teachers analyzed, "We were going through the motions because we thought we were supposed to, but we lacked a sense of purpose. Our discussions weren't lively."

Teaching represents a continual stream of decisions. There is little time for co-planning, reflection and/or analysis. Providing time for these functions made a difference for teachers and made them feel valued. "I felt like a professional when I was released during school hours to co-plan with a peer. Later, we analyzed the lesson. The discussion was rich and my colleague shared greater interest because she had been involved in planning the lesson." The opportunity to think critically about lessons is vital. As teachers experience critical thinking, they are more able to structure critical thinking experiences for students.

Teachers also indicated the opportunity to exert leadership as a condition which supported them. "It's energizing to be able to take a leadership role outside the classroom. So often I used to feel I was in a closed system. Now I've become a Mentor Teacher and a consultant and I feel as if I'm soaring. I'm a better teacher because of it."

THEME NINE: A NORM WHICH SUPPORTS EXPERIMENTATION

When the project began, there was no norm that supported experimentation at either school. Teachers lacked a history of teaching publicly. It was a private act. Although both schools had experienced several previous projects, "These came and went leaving little change." Teachers did not experiment because "there was this attitude of this, too, will pass. Besides, we were rarely the focus of efforts, anyway."

Teachers identified two conditions which seemed to begin building a norm for experimentation. The first was modeling. Project staff was "willing to demonstrate techniques using our (the teachers') students and then talk with us. They took risks and when things didn't go well we considered what happened and went on ... often we laughed together. For instance, one time the trainer had written the lesson on the board and pulled down the screen so the students wouldn't see it when they first came in. When she went to lift the screen, it stuck ... there went the lesson. We all laughed later." There truly exists a we're all in this together attitude. We've become curious about teaching behaviors ... what does work best to increase Time On Task? Motivate students?"

The second condition that teachers identified was the distinct separation between feedback from project staff and the personnel evaluation system on site. "They signed oaths of confidentiality in the first year of the project," one teacher noted about the trainers and observers. "That helped us be willing to take risks and try something new because we knew it wouldn't be used to evaluate us." The feeling of being free to experiment has fostered new learnings about teaching:

> "I learn from being free to choose and experiment
> with knowledge that in making it my own,
> I refine, redo and practice."

Norms for experimentation continue because the activity has been intrinsically rewarding.

THEME TEN: PROJECT PROCESS QUALITIES

Throughout the writings that were completed at the final retreat, teachers and principals referenced specific project process qualities that they perceived as making a critical difference.

Participants valued the time spent to build rapport and trust not only during the initial year, but on an ongoing basis. Teachers and principals felt as if the project staff had worked hard to get to know them as "people as well as professionals." Activities were tailored to participant needs:

> "Project staff kept our needs and wants in mind and produced a change in agenda when needed. That kept us coming back for more."

A safe environment was created so that participants could practice new skills. "The project provided me a safe environment to explore, experience new ideas and interact with a group of professionals that has enriched and nurtured me....this allowed me to stretch my teaching skills and help me challenge myself....we encourage our students to explore and take chances....it's important to remember I must do it too," one teacher wrote. Perceptions of feeling safe extended to the follow-up process. Noted one teacher: "....of great significance to me were the classroom observation and post observation conferences....at first I felt uncomfortable with someone watching me teach....gradually I became more at ease....I felt I improved my teaching skills and felt good about my improved abilities."

Another environmental factor that teachers considered was the development of a "social structure composed of fellow teachers across two schools." This provided a forum for teachers to "share strengths and weaknesses." Teachers commented, "New and great ideas arise from a joint effort to improve one's profession!" Another mentioned, "Within this structure I have found clarification, comfort and confrontation....this helped me analyze and synthesize the products of many years in a structure which has fed and reinforced that development.

Others conceptualized the entire project as a structure for change: "....it provided a clear, precise way to challenge and expand my thinking, teaching and dynamics when I work with a group. I learned people learn and process information in a variety of ways." Another thought the project had "synthesized the results of past research into a cohesive, coherent whole and gave it a vocabulary that one might use to converse with others."

For many, the retreat process was a vital turning point in the project. "....nothing like it (the retreat) had ever been offered to me before....I was impressed....I felt something had been withheld from me all these years....it was probably one of the most refreshing experiences of the project. It rejuvenated me and made me aware that life is not all in that contained classroom....it made me feel as if I were important enough to deserve a little class myself!

Several teachers mentioned qualities of the trainers:

"They modeled respect, trust and honesty"

"They are supportive, patient, available and approachable."

"They're always willing to help plan, advise or just listen."

Many teachers noted the project staff's encouragement for teachers emerging in leadership roles. "It's nice to know they're behind you when you put yourself out there!" One teacher concluded, "The project was a success because of the good leadership and training presented....they really knew their subject matter and presented it in a way that showed us how to use it."

LEARNINGS

Merely reflecting on the themes in the tapestry, and neglecting the framework which holds it together could leave one with perhaps an interesting image but nothing more. What were the underpinnings of this study? What can we glean from this four year effort to contribute to practice and policy? Some lessons can be learned from these experiences which shed light on the process of the implementation of a change effort in a school. These also have implications for the design of future projects and practice.

TREATMENT EFFECTS ARE DEPENDENT ON THE PEOPLE RESPONSIBLE FOR IMPLEMENTING THE PROGRAM

It is often assumed that there will be a direct relationship between the treatment and the program results (McLaughlin). Rarely is this the case. The people who implement "the treatment," in this case the training, become the filters which determine the intensity of the program which students ultimately receive. How teachers in this study implemented the training was dependent on several variables: previous training/educational experiences, how the project was introduced, their attitude toward the project, complexity of the training concepts, emotional states, how "in-danger" they were in the organization, building site norms, educational beliefs, psychological types, cognitive styles, commitment to the classroom/organization, level of abstraction and desire to change.

The project design was in part based on the work of Bruce Joyce and Beverly Showers. Implicit in their research findings is the notion that if training proceeds from theory to demonstration then practice with feedback, then application with coaching, curriculum adaptation and periodic review, there is high probability that teachers will use newly learned skills on a

regular basis in the classroom. What this design infers for training practices is clear. There are subtile individual factors, however, that will influence the degree of implementation that have nothing to do with this model. For example, some of the problems individuals in the project had in implementing the training had to do with what they believe is important in education and how they operate in the world. The project training reflects a technological approach to learning and education. It has been very difficult for some of the self actualizers and social reconstructionists to swallow. This fundamental difference accounts for much of the resistence some teachers might have to using the training. They consider other teaching approaches more valuable. The instructional skills training tends to be concrete and sequential. This holds little appeal for some of the more creative, independent thinkers in a project. Those teachers who are by nature highly structured people have had a far easier time using the skills consistently.

> Recommendation: If only one model of teaching is to be presented, training should be voluntary. Or, offer several models of teaching, stressing that each teacher needs to build a repertoire of strategies. Teachers will be more likely to experiment with the instructional skills training if they see it adding to their total repertoire instead of threatening to replace it.

Commitment to the organization and a teacher's level of abstraction (problem solving ability) are another two dimensions through which one could view project practices and outcomes. An individual who is highly committed to

an organization and his/her classroom might readily accept a new project. A teacher who has low commitment on the other hand, might consider the project a bother....one more thing to do, and resist the implementation of training. Similarly a "high abstract" teacher will be able to internalize the training and determine where it fits appropriately in planning for instruction. When a lesson doesn't go as expected, the teacher will be able to analyze why. The low abstract teacher may take longer to internalize the training and may use the elements rotely and spend more time at the "mechanical" (Hall) level of use.

Recommendation: Spend time cultivating readiness and understanding for the project's concepts and practices. If possible, the project design should be the product of collaborative work involving teachers. Allow adequate time for the internalization of training. Individualize project support to participants' needs.

Personal needs influenced how readily participants initially implemented the training, and the growth that followed. Two participants were concerned about losing their jobs. They asked for many hours of classroom assistance from project staff. The stress that they were experiencing in the documentation process often impeded their progress. Other teachers readily accepted and implemented training quickly, but later requested additional training such as time management, communication and stress management to assist them with other needs they were experiencing on site.

Recommendation: Go slowly! Consider personal and role demands when designing training content and process. With respect to follow-up and support, individualize; consider how much time is available

for this function and where time will be best spent, given available resources.

Judith Warren Little has summarized the shared and enforced expectations in most schools regarding close examination of teaching:

> "There are no established traditions in the teaching profession by which teachers receive advice on their teaching and offer advice to others....no matter how badly needed or well founded the advice." (Little, 1984)

In the beginning, there was a shared sense that teachers alone were responsible for running their own classrooms. To seek advice from others might seemingly admit a lack of teaching competence. Given these norms, it is not surprising that initially some teachers were not receptive to follow-up visits or peer observation. By proposing such activities, valued norms were being challenged. At both project schools, after three and a half years, norms are just beginning to change.

> Recommendation: Spend time in the school before beginning a project. Identify norms. Talk about norms with staff. Often it's important "to go slow to go fast." Given a supportive setting, teachers' attitudes toward training and coaching appear to undergo a positive change over time.

Norms can influence the project environment. Considering whether there is an environment which supports change is another critical factor. In some schools the norm is "to maintain status-quo." There needs to be a shared

desire to change, which often implies a shared dissatisfaction with existing conditions and available resources to support change in order for a change to occur, providing that the cost of the change is not greater than the potential benefits.

The more complex a training concept, the more difficult it seemed for teachers to apply it. Hence, the level of implementation of training did not occur equally across topic areas. A few of the insructional skills which form the core of the Hunter model are relatively complex and more theoretical in nature. They are essential to effective teaching but are more often mental processes performed by the teacher before the actual teaching of students begins. Task analysis is one example. Teachers reported using this skill less than other skills.

> Recommendation: For complex training topics, allow more time during training. Provide time for distributed practice on training topics for individual teachers. Provide many examples, taken from a number of content areas and grade levels.

Teachers in the study reported being motivated when they could see cause and effect relationships between the implementation of training content and student outcomes.

> Recommendation: Structure feedback during follow-up to identify cause and effect relationships. Use questioning strategies which promote teacher analysis of cause and effect relationships.

Perhaps most important to the implementation of training is the participants attitude toward the project. Attitudes are often dependent upon

the degree of initial involvement that the participant experiences in the development or beginning stages of the project. This will be discussed in greater detail in the next section.

INTRODUCTION OF A PROJECT: THE CRITICAL DIFFERENCE

How a project is developed, who develops it and how it is introduced and carried out are critical considerations which greatly influence the degree of project implementation that will later occur. The Rand study of federal programs supporting educational change is clear: projects which resulted from collaborative planning were the most successful in the short and long term change process. But what happens when an RFP is sent out and proposals are due during a period when school is not in session? The Follow-Through Research Study instituted a major collaborative effort during the first year of the project, since the initial planning effort occurred during the summer with limited teacher input. The following strategies were used to generate collaboration:

1. Project staff began trust building by "hanging out" at school. They got to know the teachers, their interests, needs, and the conditions under which they taught. Teachers asked questions about the project, its goals and activities.
2. The project director interviewed individual staff members about their expectations/concerns about the project.
3. A two day retreat was held to address shared expectations and concerns and make collaborative decisions about when and where training would

occur, and teacher needs for support. Problem solving addressed concerns. The researchers who conducted the research upon which the project was based talked with the teachers. Teachers were regarded as the "experts in the classroom."

4. Regular meetings were held to determine how project activities were being received and what modifications were needed.

5. Project staff continued frequent visits to the schools throughout the year so that they were "accessible." They also modeled what training would be like, and how it could be applied, using students from project teachers' classrooms.

6. The project development process was communicated as an ongoing one which could and should be molded in response to local conditions and needs. Curriculum Alignment was one component added to the project training in response to this local.

7. Teachers and principals were involved in all activities including skill development. This served to lessen the risk of change because it was occurring across the site. It caused the project to impact all areas of the school, not just the classroom.

8. There was emphasis placed on creating a positive feeling tone. One teacher reflected, "At the beginning of the project, I felt excited about being able to take part in

a new learning project. I also felt quite apprehensive, and a little worried as to what was going to be expected of me. Would I be evaluated and judged on whether I did the work in a certain way? Was I too old and set in my ways to put new teaching methods into practice? Would I be successful? These and more negative thoughts filled my mind. I had heard rumors as to how much I would need to know and how stressful the training would be....all this made me feel quite uneasy and yet I was determined to take part with the prospect of becoming a better teacher.

After the first day of the project training, my fears and apprehension were completely erased. I realized that this experience was going to be an opportunity for me to grow in my profession. The leaders were warm and understanding. They possessed a sense of humor that put me completely at ease."

9. The project activities emphasized program building rather than a deficit model which implied that teachers needed "fixing." This relieved many teachers who initially feared their school was in the project because the teachers needed skill building. Instead, they enjoyed an environment that valued reciprocity: project staff learned from teachers just as teachers learned from project staff.

PROJECT IMPLEMENTATION FOR LONG TERM CHANGE

A principal who participated in the project was asked, what happened during the training and implementation phase that seemed to make the "biggest difference?" He replied, "Let me use an analogy of a student who gets in trouble at school for fooling around in class. You can't force him to be good and expect lasting change. You need to make him want to learn for real, long lasting change. The project came in strong. The staff rose to the occasion. The initial excitement and surge of energy masked the fact that the school was in trouble. In the second year the teachers' focus turned to healing old wounds which had surfaced. The project staff accommodated this focus by offering a stress management, and later a communication workshop. The project turned its focus to the person, not the role when it was important to do so. That made the critical difference. People often expect projects to be like medicine -- apply it and whamo, an instant cure. It doesn't work that way with schools."

The climate which was conducive to the implementation of training included a focus on stated goals with an attention to the individual and his/her needs. The project strategies that fostered staff learning and change consisted of training and support. Training occurred off site, during school hours with teacher release time. Typically training would include theory, demonstration and practice opportunities with feedback. Following training, participants would have time to apply new practices. Each participant would receive follow-up visits from training staff. In most cases follow-up did not involve co-planning. In retrospect, these visits should have involved co-planning and feedback after the lesson. This would have provided for a shared

responsibility for what happened during the lesson. There was a change in follow-up practices over time. Initially follow-up provided reinforcement. Later on, teachers wanted to move beyond reinforcement to other questions about teaching practices. There was a shift in the balance of conversation during the follow-up visit. In the initial stages the supervisor played a dominant role. The teacher played a major role in later stages of the project. Other follow-up support activities included opportunities to participate in peer observation, videotaping/analysis and R and R (review and refinement sessions). One critical concern of project staff was how to review training content to promote depth and internalization of concepts. It seemed rude to simply repeat content. One solution was the presentation of training content at different levels of the taxonomy during the "R and R" sessions. As the Rand report suggests, after the "information transfer during training," teachers modified the use of training practices to adapt to the realities of the classroom. As they moved through the process of "mutal adaptation" their understanding and ability to use the concepts and practices became more sophisticated. Thoughout the project, staff members were accessible for problem solving and support. Regular meetings were held to talk about training, implementation issues, ISOI and ER data and successful practices. This appeared to support the internalization of concepts. Teacher participation in project and school decisions seemed to combine with the factors previously mentioned to make the total effort a richer, more responsive one. Teachers' sense of efficacy increased in the process.

MAINTAINING THE MOMENTUM; CAN IT BE DONE?

One concern that results from conducting a federally supported project is, "How can it be sustained after federal support is withdrawn?" The literature

frequently addresses institutionalization. This has certainly occurred to some extent. Project practices in the schools live on, because the staff values them. Teachers have become trainers, mentor teachers and consultants. But as teachers move through the "collaboration and refocusing" stages (Hall), they have begun to seek new training in advanced curriculum alignment, computers and cooperative learning. These new interests need to be nurtured and supported. It is difficult when there are limited funds for release time.

Specific processes, such as active involvement in decision making and peer support remain in place. Teachers are moving in new directions. There are new norms which support experimentation. Project staff need to be available to listen, support and share resources.

THE PRINCIPAL'S ROLE

The Follow-Through Research project findings reiterate much of the Change Agent data:

1. The attitude of the building principal was critical to the long term results of this change agent project.
2. Principal support related positively to project implementation and success.
3. The building principal gave messages about the continuing project efforts in the school.
4. Principal participation in training validated the importance of the training, worked to dispel the "deficit model" and celebrated the value of ongoing learning.

CELEBRATING OUR LEARNINGS

At the conclusion of the study, teachers and principals were asked to redesign the project, based on their learnings so that other schools/districts wishing to embark upon a similar change effort could benefit from these experiences.

Among the recommendations were:

- Start with a core group of volunteers.
- Include teachers in a needs assessment at the start of the project.
- Provide training at the start which gives an overview of all the activities which are planned over the four years so that teachers can see "the big picture."
- Greatly restrict district demands for additional staff development during the years of the project.
- Include a variety of teaching strategies in the training content instead of focusing on direct instruction. Emphasize the idea that teaching is a decision making process.
- Find ways to alleviate the problem of removing teachers from their classrooms for staff development. Either train substitutes so that students receive quality instruction, or hold training when school is not in session.
- Require teachers to be more involved in follow-up. Have them work with peers planning lessons and observing in each other's classrooms, videotaping, using self evaluation and exchanging classrooms.

- Use external project staff (as in this effort) to reduce the fear of risk taking associated with internal personnel who may also be responsible for evaluation.
- Extend the project to six years, using the additional two years to put "all the pieces together."

Project staff (Scott, 1985) added to these:

- Make sure that the staff development activity is a collaborative effort
- Provide choices for teachers
- Make sure trust is established between teachers and observers at the initial stages of the project
- Identify the norms in the school regarding the improvement of instruction

SUMMARY

This paper has followed ten themes in a tapestry of school improvement. Collegiality, knowledge about teaching strategies, sense of efficacy, changes in cognition about teaching, changes in student outcomes, perception of the school in the community, changes in teachers'/principals' perceptions about their own learning needs, environmental norms, changes in the workplace and perceptions about why the project worked were examined using teachers', principals', students', parents' and project staff's written and oral accounts as a basis for exploring these areas of growth.

Conclusions were drawn that can contribute to policy and practice about critical factors affecting project development, training, implementation and

maintenance based on four years of experience. The implications of these learnings were discussed as they related to the principal's role. Findings were compared to the existing literature.

For those wishing to replicate this effort or a similar one the following suggestions are offered:

1. Take the time to build a readiness for change. It is critical that trust and rapport be established early in the staff development program.
2. Involve participants in planning. Even if a staff development project is already formulated, there are still decisions participants can make regarding training schedules and locations. When participants are involved in planning, there is a greater probability that the individual and personal needs of participants, as well as the project's objectives, can be met.
3. Administrative support is important. It is imperative that a project be considered a "priority" rather than as "one more thing to do."
4. Make it clear to participants what the training will be like. Demonstrate for staff a portion of training during a staff meeting prior to the formal training sessions. In addition, it may be useful to demonstrate the use of the desired techniques in the classrooms of teachers to be served by the project. This instills a confidence that the training will be responsive to their needs and to the needs of the students they teach.

7. External project staff should spend time at the schools where the project is being implemented. They should be accessible to faculty members. Personal contacts and written communications build understanding, trust, rapport, and support for project activities.

8. Conduct training away from the school site and schedule training during school hours so that teachers are released from classroom responsibilities. This prevents teachers from being interrupted and creates feelings that they are valued as "professionals." It is useful to train substitutes in classroom management and instructional skills to maximize student learning while teachers are being trained.

9. Use polished presenters who can talk concretely about the classroom and model the techniques they teach. Participants must perceive that their time away from the classroom is well spent.

10. Allow adequate time during training for participants to plan how they will use what they've learned in their classrooms. Classrooms are busy places. Participants need planning sessions away from classroom responsiblities to implement newly learned strategies.

11. Provide feedback to teachers/principals about their use of newly learned practices in a way that is non-threatening and enables them to adjust their behavior.

12. A mechanism such as a Principals' Advisory Committee (PAC) is important to maintain a positive environment where communication flows freely. This process also promotes teacher roles in decision making and leads to a sense of efficacy.

13. Both formative and summative evaluation measures should be used. Teachers and principals can benefit from using formative data to change teaching and leadership behaviors. (Robbins)

The new tapestry that is created during replication will have its own character which reflects local conditions and participants' needs.

The road to change is a precarious one, but it can be navigated, given careful planning, collaboration, trust, rapport, energy and clear direction. The benefits, often not measured in a quantitative way, are many.

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